

PROGRAM

The 5th KAST-Leopoldina Bilateral Symposium on “AI and Machine Learning: Technology, Perspective and Applications”

Intercontinental Seoul Coex, Seoul, Korea
Thursday - Friday, 19 - 20 October 2017

[Thursday, 19 October 2017]

Time	Contents
09:00 – 09:30	Registration
Opening Ceremony	
09:30 – 09:50	Opening Ceremony - Welcoming Remarks Ook Joon Yoo (Executive - Vice President / The Korean Academy of Science and Technology (KAST)) Sigmar Wittig (Presidium Member / The German National Academy of Sciences Leopoldina) - Introduction to the Symposium by the Chairs of the Program Committee Klaus-Robert Mueller (Technische Universität Berlin (TU Berlin); Member of Leopoldina) Sukhan Lee (Vice-President for Academic Affairs, KAST) Group Photo
Session 1: Cognition and AI: Recent Trends <i>Chair: Byoung-Tak Zhang</i> (Seoul National University) / <i>Heinrich Buelthoff</i> (Max Planck Institute for Biological Cybernetics)	
09:50 – 10:20	Cognitive Robotics for Personal Transportation Heinrich H. Buelthoff (Max Planck Institute for Biological Cybernetics)
10:20 – 10:50	Autonomous Machine Learning Byoung-Tak Zhang (Seoul National University)
10:50 – 11:20	Deep Learning for Robot Navigation and Perception Wolfram Burgard (University of Freiburg)
11:20 – 11:35	Coffee Break
11:35 – 12:05	Hybrid Intelligent Systems: Principles and Applications Sung-Bae Cho (Yonsei University)
12:05 – 12:35	Toward Mission Critical A.I. Systems Min-Soo Kim (DGIST)
12:35 – 12:50	Wrap up Session
12:50 – 14:00	Lunch
Session 2: Advances in Machine Learning <i>Chair: Seungjin Choi</i> (POSTECH) / <i>Sepp Hochreiter</i> (Johannes Kepler University Linz)	
14:00 – 14:30	Bayesian Inference for Power Law Models Seungjin Choi (POSTECH)
14:30 – 15:00	Deep Learning in Autonomous Driving and Drug Design Sepp Hochreiter (Johannes Kepler University Linz)
15:00 – 15:30	Exploiting Relations among Multiple Time Series Toward Explainable Artificial Intelligence Jaesik Choi (UNIST)
15:30 – 15:45	Coffee Break
15:45 – 16:15	Deep Weakly Supervised Learning in Visual Recognition Bohyung Han (POSTECH)
16:15 – 16:45	Understanding Nonlinear Machine Learning Models with Applications Klaus-Robert Mueller (Technische Universität Berlin (TU Berlin))
16:45 – 17:00	Wrap up Session

[Friday, 20 October 2017]

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09:00 – 09:30	Registration
Session 3: New Capabilities for Machine Learning, Vision, Communication and Modeling <i>Chair: Seong-Whan Lee</i> (Korea University) / <i>Thomas Wiegand</i> (Fraunhofer Heinrich Hertz Institute)	
09:30 – 10:00	Convergence of Communication and Machine Learning Thomas Wiegand (Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute)
10:00 – 10:30	Explainable 3D Deep Learning for Brain-Computer Interface Seong-Whan Lee (Korea University)
10:30 – 11:00	Natural Language Description of Online Images and Videos Gunhee Kim (Seoul National University)
11:00 – 11:15	Coffee Break
11:15 – 11:45	Machine Learning for Computational Social Science Alice Haeyun Oh (KAIST)
11:45 – 12:15	Machine Learning in Quantum Physics and Quantum Chemistry Alexandre Tkatchenko (University of Luxembourg)
12:15 – 12:30	Wrap up Session
12:30 – 13:30	Lunch
Session 4: Applications to Sciences and Services <i>Chair: Dong Soo Lee</i> (Seoul National University) / <i>Wolfram Burgard</i> (University of Freiburg)	
13:30 – 14:00	Deep Learning Application to Brain Imaging and Medical Data Dong Soo Lee (Seoul National University)
14:00 – 14:30	Machine Learning in Personalized Medicine – Why Algorithms Are Not Enough Thomas Lengauer (Max Planck Institute for Informatics)
14:30 – 15:00	Interpreting Molecular Biology Data Using Machine Learning Techniques Sun Kim (Seoul National University)
15:00 – 15:15	Coffee Break
15:15 – 15:45	Machine Learning for Morpho-Molecular Cancer Profile Analysis Frederick Klauschen (Charité Universitätsmedizin Berlin)
15:45 – 16:15	Universal denoising via deep Learning Network Taesup Moon (Sungkyunkwan University)
16:15 – 16:30	Wrap up Session
16:30 – 16:40	Coffee Break
Panel Discussion : Future of AI and Machine Learning : Impact of AI and Machine Learning on Future Society and Industry <i>Sukhan Lee</i> (Vice-President for Academic Affairs, KAST) / <i>Thomas Lengauer</i> (Vice-President Leopoldina)	
16:40 – 17:30	Discussion